INFINITE
PERIPHERALS

INFINEA TAB
USER MANUAL

INFINEA™ TAB

iPad®

Made for iPad

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LEGAL NOTICE

“Made for iPad” means that an electronic accessory has been designed to connect specifically to iPad, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPad may affect wireless performance.

COMPATABILITY

Made for iPad 2

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MODELS

Part #	Features						
	Scanner	MSR	Encryption		RFID	Bluetooth	No Battery
			Standard	PCI			
LPTX-MSE		X	X				X
LPTX-S-MSE		X		X			X
LPTMS		X					
LPTMSE		X	X				
LPT-S-MSE		X		X			
LPT	1D	X					
LPTE	1D	X	X				
LPT-S-E	1D	X		X			
LPTBTRE	1D	X	X		X	X	
LPT-S-BTE	1D	X		X		X	
LPTC2D	2D	X					
LPTC2DE	2D	X	X				
LPT-S-C2DE	2D	X		X			
LPTC2DBTRE	2D	X	X		X	X	
LPT-S-C2DBTE	2D	X		X		X	

Table 1

OVERVIEW

The Infinea TAB allows mobile employees to convert their iPad into a powerful solution for retail, warehousing, supply chain, ticketing and hospitality industries. The Infinea TAB includes optional 1D or 2D barcode scanner, 3-track encrypted magnetic stripe reader, optional Bluetooth support, and RFID.

Features:

Battery:

Rechargeable Li-ion Battery – (700-1100) mAh
Charging via USB to computer

Magnetic Card Reader:

3-Track Head
Swipe Speed: Minimum of 1.97 in/sec
MTBF: 1 million swipes

Barcode Scanner:

Class II - 1D/2D Imager
Single / Multi-scan mode
1D - MTBF: 30K hours (Laser Diode & Mirror Unit 10K hours)
2D - MTBF: 40K hours (Imager & Focus LED)

Indicators:

Visual - 2 LEDs for device status

I/O Connectors:

30-pin plug iPod dock connector 10-pin female Mini-B USB connector for charging and synchronization

TECHNICAL DATA

General Specifications:

Power supply	From iPad & from internal Li-Ion Battery 3,7V (700-1100)mAh
Modes of operation	Active (turn on Infinea TAB) / Active with Scanning / Stand By (after 5sec without operate) Active (disconnected Bluetooth) / Active(connected Bluetooth) / Active Search Magnetic card reader, Bar code reader, RFID reader
MCU	Hitachi - HD64F3687
Communications	UART 3,3V Level Interface - communication between Infinea TAB & iPad USB Interface - USB Synchronization between iPad & PC Bluetooth – between Dongle & remote device or PC
RS232 Interface	Speed: 57600bps iPad RS232 Protocol
Power consumption	Active Bluetooth Disconnected: – 2,7mA; Active Bluetooth connected: - 22mA Active Bluetooth Search – 42mA Bar Code Active with Scanning: 1D Engine – 110mA; 2D Engine - 230mA Stand by - 10μA
Bluetooth	Bluetooth 1.1 Class 2 distance - Up to 10m Serial port profile
BAR code	1D bar code reader scan engine (optional) 2D bar code reader scan engine (optional)
RFID	MIFARE CLASSIC 1K/4K, MIFARE Ultra-Light/Ultra-Light C, ISO/IEC 15424, ISO/IEC 15693, ISO/IEC 14443.
MCR	3 track secured head reader Cipher algorithm – 3DES(112) & AES256 Key Management – DUKPT & Fixed Key
LEDs	2 LEDs for Device status
Buttons	2 buttons for start scanning
Battery	Li-ion Battery 3,7V (700-1100)mAh Charging from USB
Weight, g	96 grams (without Apple iPad) with battery and 2D barcode scanner
Dimensions, mm	128mm x 51mm x (26/43)mm – (depends on scanner 1D/2D)
Environment	- Operating temperature 0°C to +40°C - Operating humidity 35 to 85% RH - Storage temperature -5°C to +40°C - Storage humidity 10 to 90% RH
Cables	Standard USB A to mini B Sync Cable

Table 2

* Specifications subject to change without notice.

BOX CONTENTS

Your Infinea TAB comes with the following items listed below:

Item	Part Number	Descriptions	Image
1	Infinea TAB	Infinea TAB Reader / Scanner	
2	USB A to mini USB	USB sync cable	
3	Infinea TAB Quick Start	Infinea TAB Quick Start Guide	

Table 3

*Bulk Shipments may ship without cables and manuals in each box.

Software (Drivers & SDK):

Because of the continually evolving SDK, the latest SDK are not distributed on CD.

For the latest Infinea TAB SDK's, please visit our developer portal:

http://developer.ipcprint.com/

GETTING STARTED

The Infinea TAB allows you to scan barcode and capture Magnetic Strip information onto your iPad. Before using your Infinea TAB the battery should be properly charged. The following Quick Start guide will help to get your Infinea TAB ready for use.

Quick Start:

Step	What to do	Purpose	Where to find more information
1	Fully charge your Infinea TAB as recommended	The battery pack should be fully charged before use to ensure long battery life	Charging Battery, Page 9
2	Install Software	Barcode Scanning & Card Reading requires software to be installed onto your iPad	Please contact your IPC Sales Representative
3	Attach device to iPad	Connecting your Infinea TAB and iPad	Charging Battery, Page 8

Table 4

ABOUT YOUR INFINEA TAB

1. Scan Button
2. Scan Button
3. Home Button
4. RFID Receiver/Transmitter
5. Magnetic Strip Reader
6. Docking Connectors
7. Barcode Scanner

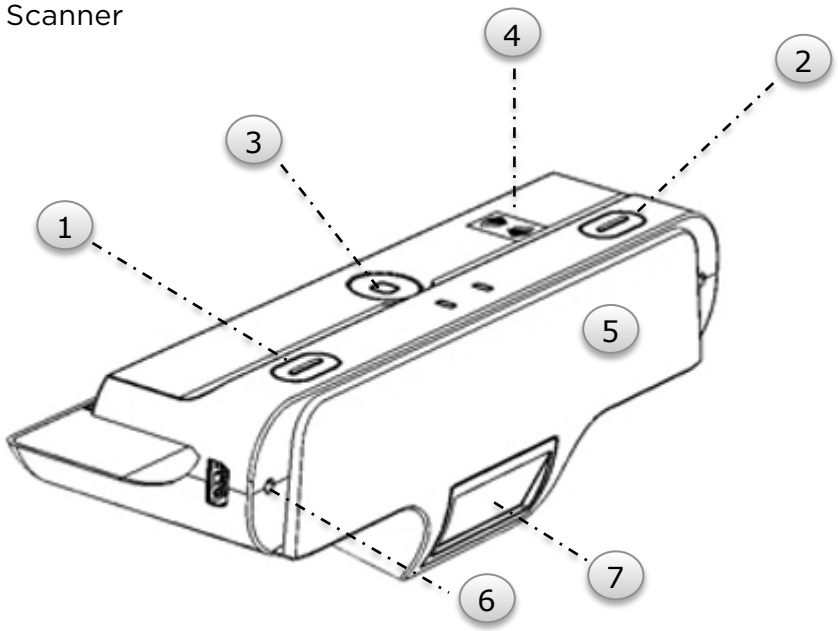


Figure 1

8. 30 Pin iPad connector
9. USB Sync & Charging Port

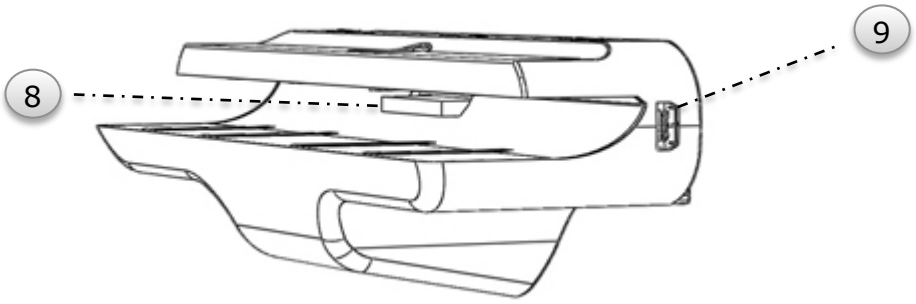


Figure 2

ASSEMBLING YOUR INFINEA TAB

1. Align both the home button on iPad and Infinea TAB as shown below.

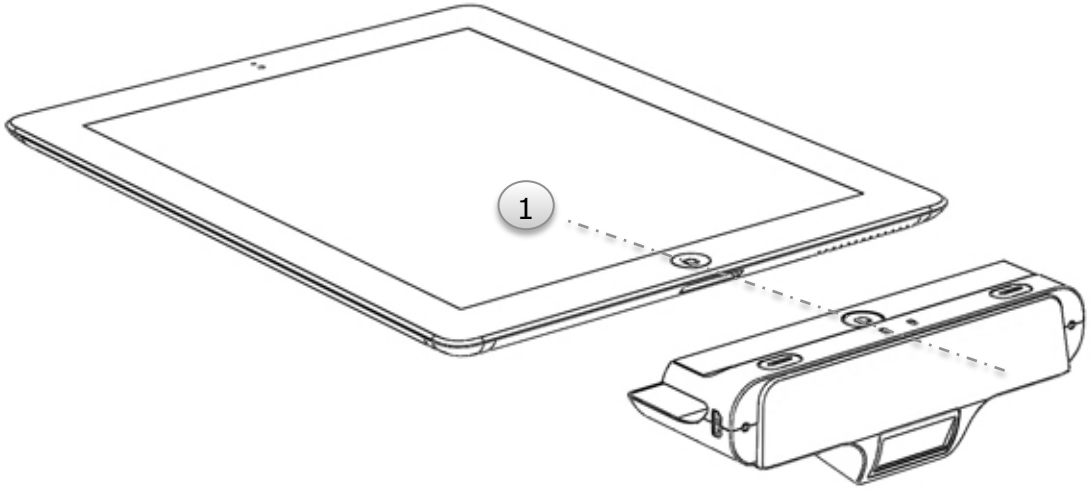


Figure 3

2. Gently slide Infinea TAB into position as shown below.

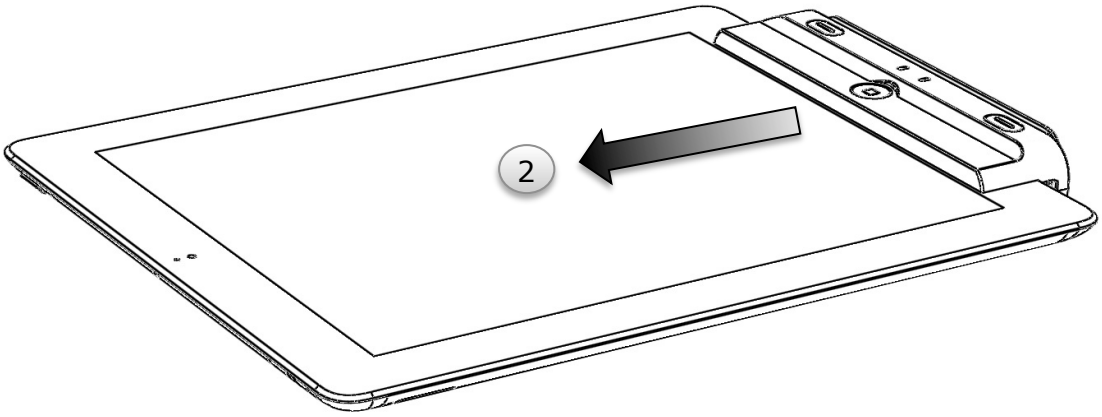


Figure 4

CHARGING YOUR INFINEA TAB

Charging the Infinea TAB through USB port:

The Infinea TAB uses a Lithium Ion rechargeable battery pack. Before first use, the battery pack should be charged for at least (4) hours.

To prevent electrical damage to the Infinea TAB and/or battery pack, please use approved AC adaptors and USB to Mini USB cables only.

1. Connect mini USB charger cable as shown below.

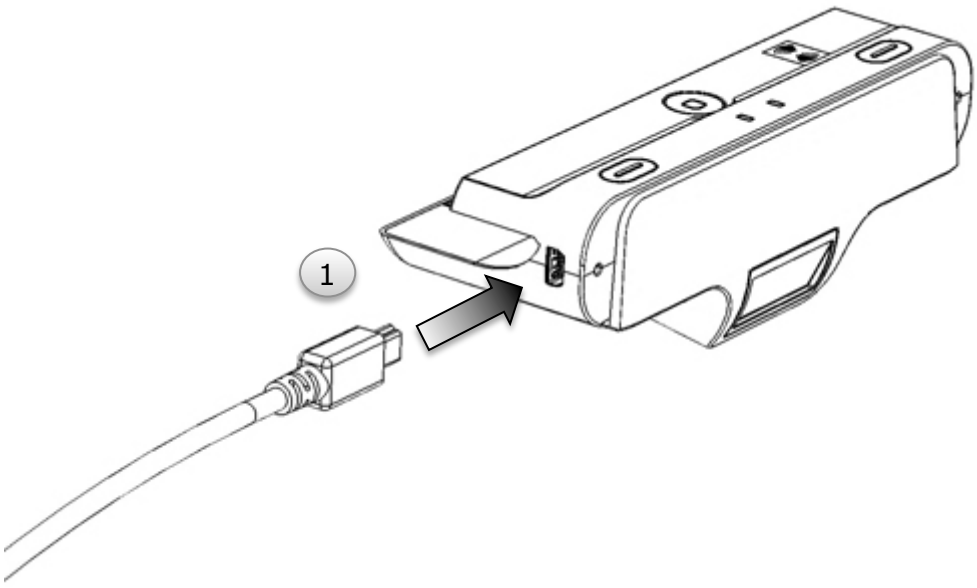


Figure 5

Warning:

- When charging the iPad and Infinea TAB at the same time, only use the approved/recommended 5 volt @ 2.1 amp dc adaptors. Failure to do so may cause charging problems and potential damage to the Infinea TAB and/or iPad.

- When connecting the mini USB charging cable, take care as to not force the plug into the connector as doing so may cause damage to the connector.

STATUS AND OPERATIONAL MODES

The Infinea TAB uses LEDs to indicate various conditions of operation. This may be charging, active or online, battery low conditions. The following explains these conditions and LED indication.

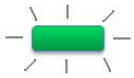
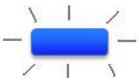
LED		Status	
1		Slow flashing, indicates no connection with iOS Application.	Fast flashing, indicates connection with iOS Application.
2		Flashing indicates battery is charging.	
		Solid (non-flashing) indicates battery fully charged.	

Table 5

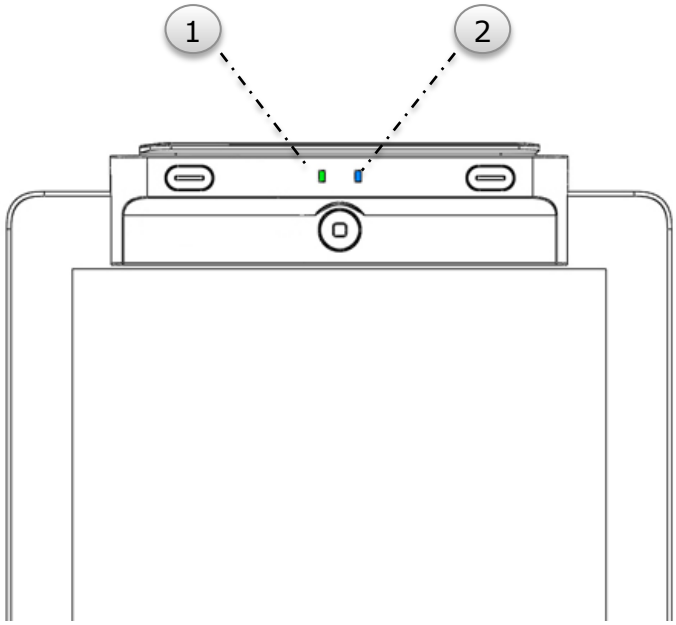


Figure 6

1D BARCODE SCANNING

Using the 1D barcode scanner:

The Infinea TAB 1D uses a scan engine that supports one-dimensional (1D) barcode symbols. The effective reading distance of the barcode reader varies depending on the barcode size.

Scanning 1D Barcodes:

To scan a 1D barcode fist activate the scanner. Then position the scan head as close to the barcode label as possible so that the scan line crosses both ends of the barcode as shown in the figure below.

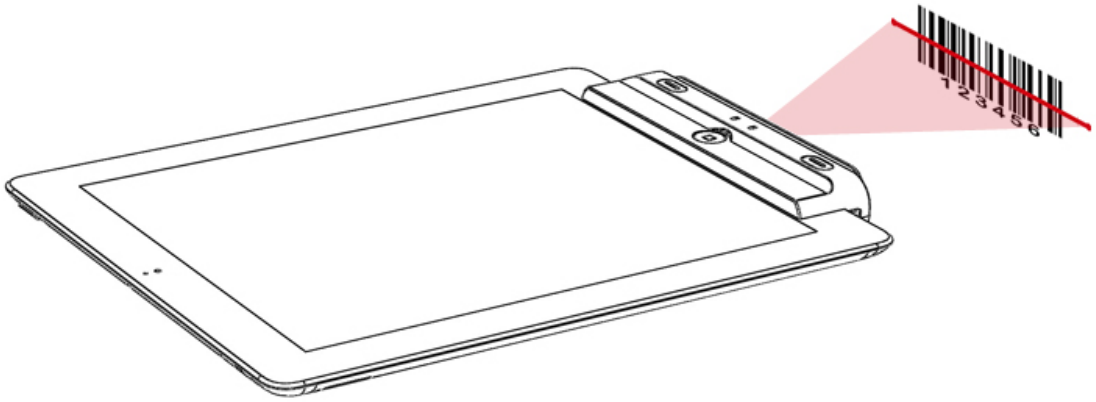


Figure 7

Tips:

Slowly pull back the unit increasing the distance between the barcode and scan head until the scan line crosses both ends of the barcode and the barcode has been read by the scanner.

2D BARCODE SCANNING

Using the 2D barcode scanner:

The Infinea TAB 2D uses a scan engine that supports one-dimensional (1D) and two-dimensional (2D) barcode symbols. The effective reading distance of the barcode reader varies depending on the barcode size.

Scanning 2D Barcodes:

To scan a 2D barcode fist activate the scanner. Then position the scan head to center the aiming laser near the center of the barcode and the illumination box is over the outer edges of the barcode as shown in the figure below.

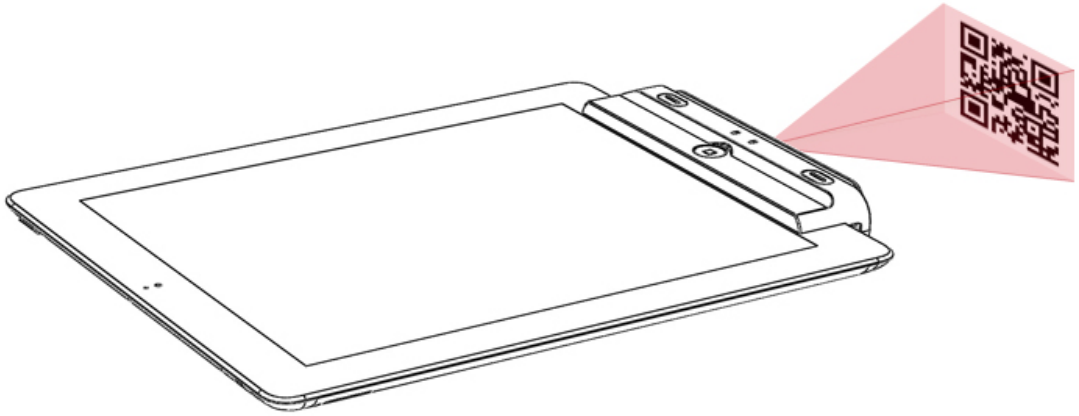


Figure 8

Tips:

Depending on the size of the barcode being scanned, you may need to slowly pull back the unit increasing the distance between the barcode and scan head until the barcode is within the imager's illumination box as shown in the figure above.

MSR READING

Reading Magnetic Strips:

The Infinea TAB has a built-in magnetic card reader. The card reader incorporates a (3) track magnetic read head requiring a single swipe to read field data from all three tracks.

The magnetic read head faces outwards. When placing the card into the reader, the magnetic strip must be facing towards the iPad as shown in the figure below.

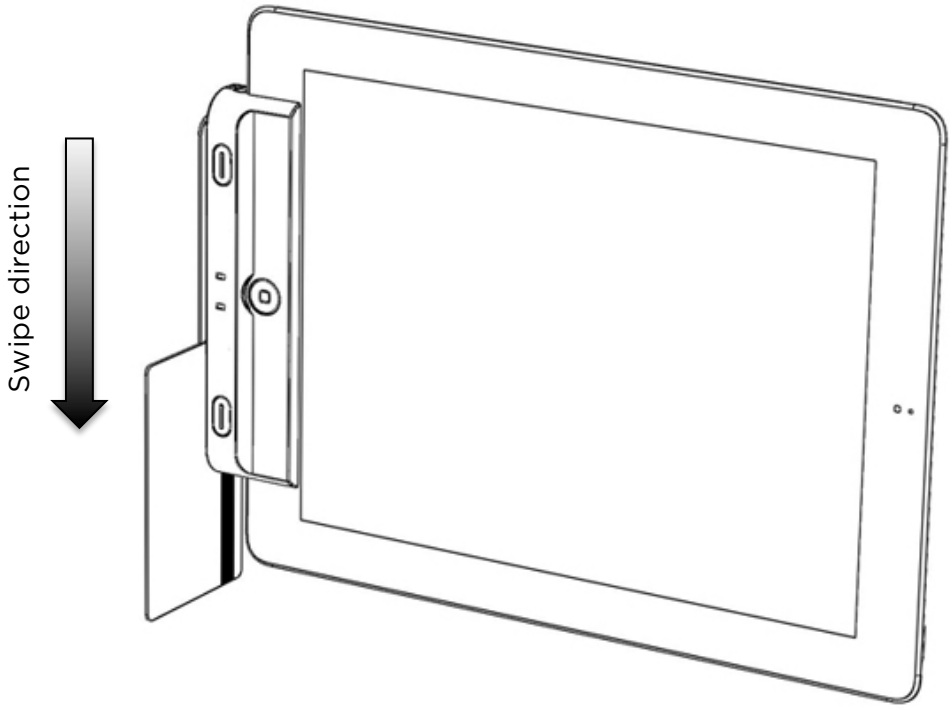


Figure 9

Tips:

When swiping the card through the reader, keep the edge of the card flat on the inner base of the reader to ensure that the magnetic strip passes over the read head evenly.

Swipe the card with an even sliding motion in the direction shown in the figure above.

RFID READING

Reading RFID Cards:

The Infinea TAB has a built-in RFID tag/card reader. The RFID reader incorporates several RFID format depending on the model of your Infinea TAB.

To Read/Write to RFID tag/cards will require special software not included with the Infinea TAB.

The RFID receiver/transmitter is located adjacent to the left scan button. Place the RFID tag/card over the receiver/transmitter as shown in the figure below. Keep the face of the tag/card flat with the receiver/transmitter as close as possible.

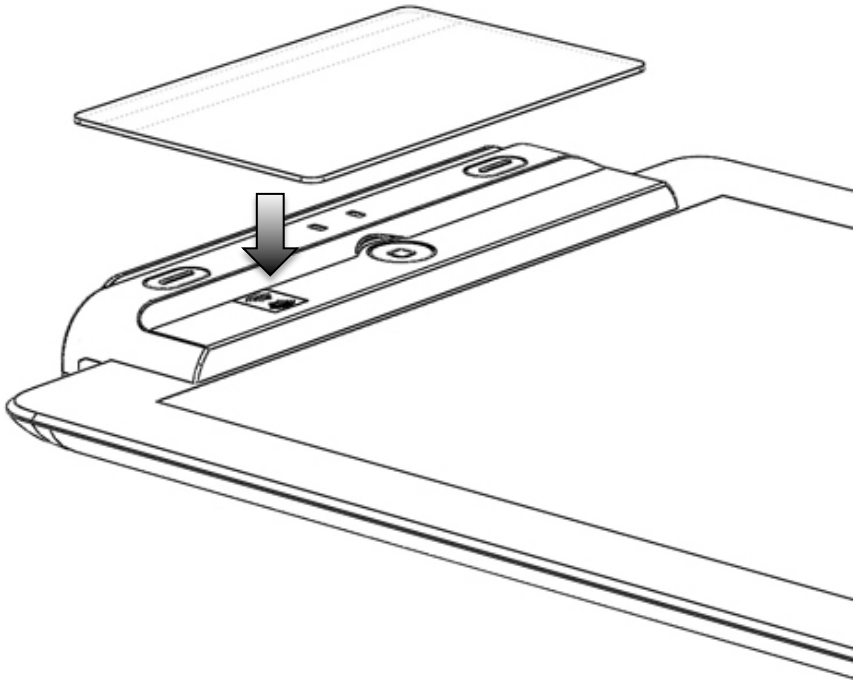


Figure 10

Tips:

Depending on the type of RFID tags/cards being used, it may be necessary for tags/cards to make direct contact with the surface where the RFID receiver/transmitter is located for proper reading/writing.

SYNCING

The Infinea TAB portable barcode scanner and card reader is designed specifically for use with iPad there by allowing the iPad to sync with iTunes through the Infinea TAB while connected.

To sync iPad with iTunes through the Infinea TAB follow the steps below;

1. Connect the Infinea TAB to a computer using a Mini USB cable as shown in the figure below.

2. Wait for the sync mode beep and the LED flashes blue.

The Infinea TAB should now be in sync mode. Refer to the iTunes documentation for syncing your iPad.

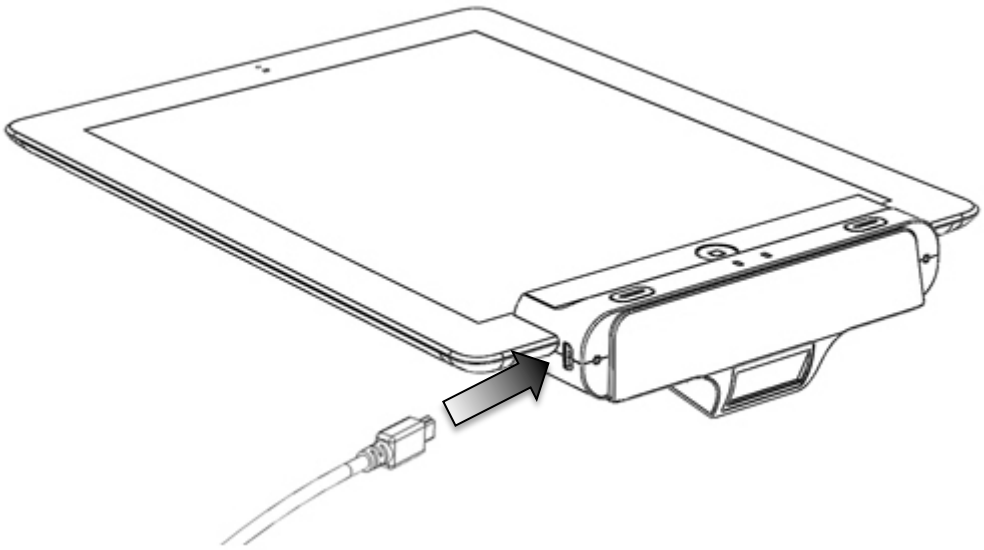


Figure 11

Tips:

When debugging your Infinea TAB iOS application keeping the sync-cable connected to the Infinea TAB will help to speed up your developing efforts by allowing you to sync your application onto the iOS device connected to the Infinea TAB.

REPLACING BATTERY

The Infinea TAB portable barcode scanner and card reader is designed with an internal Lithium Ion rechargeable battery pack.

For problems related to battery not charging or unit not turning on, please consult your Infinite Peripheral representative or certified service center.

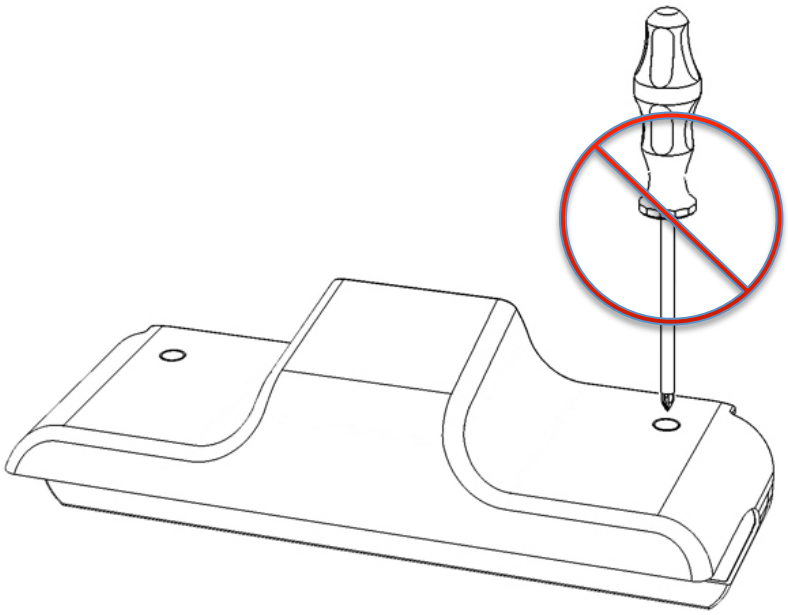


Figure 12

Warning:

- Disassembling of the Infinea TAB may impact your Infinea TAB warranty. Please consult your Infinite Peripheral representative before attempting to open the Infinea TAB.

- Attempting to disassembly secured Infinea TAB device will render the unit unusable. Please consult your Infinite Peripheral representative or certified service center.

DEVELPING SOLUTIONS

Integrating the Infinea TAB into your solution requires the use of the Infinea TAB SDK.

The SDK incorporates an API specifically for rapid development of iOS applications designed to use the barcode scanning, card reading, Bluetooth, and RFID capability of the Infinea TAB.

For details on using the Infinea TAB SDK, please refer to the SDK's documentation. The Infinea TAB SDK can be downloaded from our Developer Portal.

For the latest Infinea TAB SDK's, please visit our developer portal:

http://developer.ipcprint.com/

SECURED DEVICE INFORMATION

Integrating the PCI certified Infinea TAB into your solution requires proper maintenance of the Infinea TAB to insure long and trouble free operation of the product.

This includes maintaining proper battery charge to prevent the Infinea TAB from entering tamper detect mode. When the Infinea TAB battery runs out or if the battery is removed the magnetic read head security feature becomes disabled and renders the unit unusable. This will require the unit to be sent back to Infinite Peripherals for servicing.

To prevent down time caused by the magnetic read head security feature becoming disabled follow the recommendations below:

- Do not allow the Infinea TAB battery to fully discharge.
- Do not attempt to remove battery from Infinea TAB unit.
- Always place the Infinea TAB on charging station when not in use for extended periods.

The battery capacity and approximate time remaining before full discharge are shown in the table below. These values do not include daily usage of your Infinea TAB and iOS device:

Scan Engine	Infinea TAB with iOS Device		Infinea TAB without iOS Device	
	Full charge	60mAh (3.2V-2.6V)	Full charge	60mAh (3.2V-2.6V)
1D	31 days	41h 10mins	694 days	38 days
2D	14 days	19h	684 days	37 days

Table 6

Warning:

- When the Infinea TAB battery is fully discharged and enters the tamper detect mode, the unit can only be re-enabling at an IPC authorized service facility or at one of IPC's locations.

TROUBLESHOOTING CARD READING

CARD READING

If you are having problems with reading card magnetic strip refer to the table below for possible causes.

Item	Problem	Possible Cause
1	No card data returned during swiping.	* Infinea TAB not turned On. * Card inserted incorrectly. * Swipe method incorrect. * Faulty read head. * Unreadable magnetic strip. * Secured Head reader requires encrypted data decryption. * Secured Head in tamper detected mode
2	Partial card data returned during swiping.	* Swipe method incorrect. * Faulty read head. * Unreadable magnetic strip.

Table 7

TROUBLESHOOTING SCANNING

BARCODE SCANNING

If you are having problems scanning barcodes refer to the table below for possible causes.

Item	Problem	Possible Cause
1	Scanner does not turn On.	* Infinea TAB battery is too low. * Infinea TAB not turned on by software. * Faulty scan engine.
2	No barcode data returned during scanning.	* Unreadable barcode. * Infinea TAB battery is too low. * Faulty scan engine. * Software decode incorrectly.
3	Partial barcode data returned during scanning.	* Unreadable barcode. * Infinea TAB battery is too low. * Faulty scan engine. * Software decode incorrectly.
4	Unable to perform multi-scanning.	* Multi-scan mode not enabled. * Software does not support multi-scans.
5	Unable to hear scanner beep.	* Sound mode not enabled. * Infinea TAB battery is too low.
6	Unable to scan certain barcodes symbols.	* Barcode type is not enabled. * Barcode type is not supported.

Table 8

TROUBLESHOOTING RFID

RFID READING/WRITING

If you are having problems reading or writing RFID Tags/Cards refer to the table below for possible causes.

Item	Problem	Possible Cause
1	RFID does not turn On.	* INFINEA TAB battery is too low. * INFINEA TAB not turned on by software. * Faulty RFID reader.
2	No RFID data returned during reading.	* Unreadable RFID tag/card. * INFINEA TAB battery is too low. * Faulty RFID reader. * Software decode incorrectly.
3	Partial RFID data returned during reading.	* Unreadable RFID tag/card. * INFINEA TAB battery is too low. * Faulty RFID reader. * Software decode incorrectly.
4	Unable to read certain RFID Tag/Card.	* RFID type is not compatible. * RFID type is not supported.

Table 9

DIMENSIONS

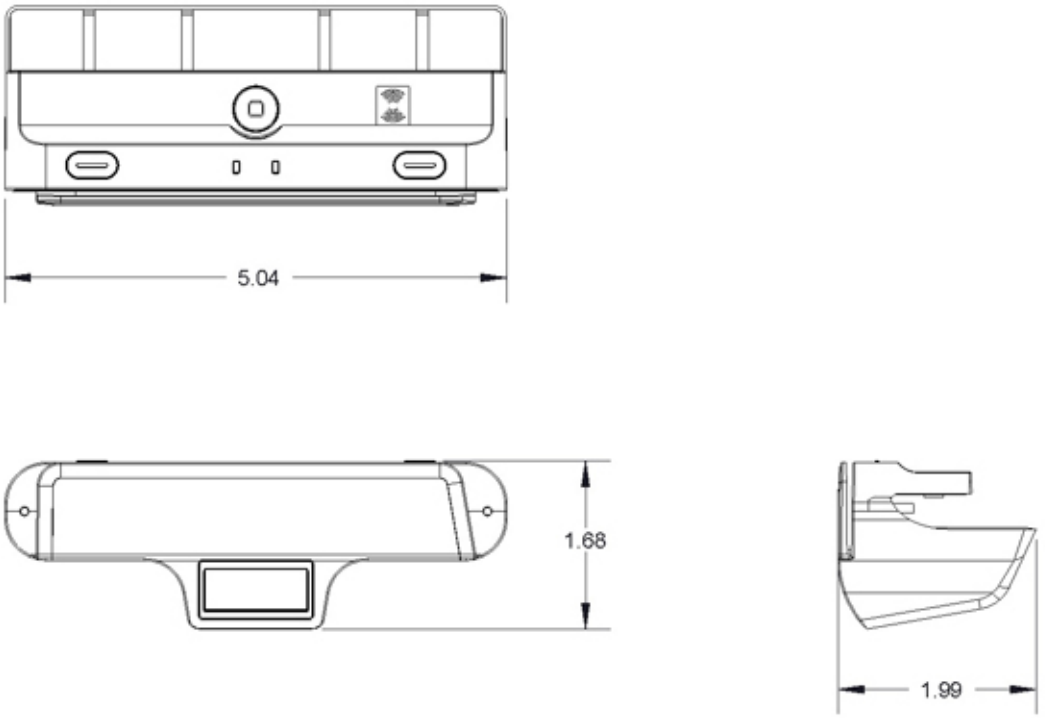


Figure 13

FEDERAL COMMUNICATIONS COMMISSION

Federal Communications Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

1) this device may not cause interference and

2) this device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating

instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.